ORDER NO. TSD-7602-248

Service Manual

FM/AM/FM STEREO RADIO AND RECORD PLAYER WITH CASSETTE DECK

Compact Stereo

SG-1060L

Specifications

AMPLIFIER SECTION

Power Output	MPO 2×8.5W (THD 5%, 8 ohms) RMS 2×7.5W (One Channel, 5%, 8 ohms) RMS 2×6.0W (Both Channel, 5%, 8 ohms)
Frequency Response	20Hz ~ 20000Hz
Input Sensitivity and Impedance:	
Tape	300 mV, 25k ohms
REC OUT & Impedance	
DIN	40 mV, 80k ohms
Tone Controls:	
Bass	±8dB at 100Hz
Treble	±10dB at 10kHz

FM TUNER SECTION

Frequency Range	87.5 MHz ~ 108 MHz
Intermediate Frequency(IF)	10.7 MHz
Sensitivity	3.5μV (S/N 30 dB, MOD 40 kHz)
Image Ratio	30 dB (98 MHz)
Signal to Noise Ratio	60 dB (at 1 kHz, 60 dB, 75 kHz)
Distortion	0.5% (MONO) (at 1 kHz, 60 dB, 30%)
Stereo Separation	30 dB (at 1 kHz, 60 dB, 30%)

AM TUNER SECTION

Frequency Range	MW: 525 kHz ~ 1605 kHz (572m ~ 87m) LW: 145 kHz ~ 285 kHz (2070m ~ 1050m)
Intermediate Frequency(IF)	455 kHz, 470 kHz (UK)
Sensitivity	MW: 100 μV/m for 50 mW LW: 300 μV/m for 50 mW
Image Ratio	MW: 35 dB (1MHz) LW: 45 dB (220 kHz)

RECORD PLAYER SECTION

Turntable	25 cm (10″)
Turntable Speed	33-1/3 and 45 r.p.m., 2-speeds
Phonomotor	AC 2-Pole Induction
Cartridge	Ceramic (EPC05STAD)
Stylus	Diamond (EPS36STSD)
Stylus Pressure	7 gram
Wow & Flutter	0.20% WRMS

TAPE DECK SECTION

Deck System	Auto Stop Cassette System
Track System	4 Track, 2 channel
Recording System	AC Bias, 52 kHz
Erasing System	AC Erase, 52 kHz
Tape Speed	4.75 cm/sec (1-7/8 i.p.s.)
Frequency Response	50 Hz ~ 10000 Hz
Wow & Flutter	0.25% WRMS

SPEAKER SYSTEM (SB-107L)

Speaker	16 cm Woofer and 5 cm Tweeter
Input Impedance	8 ohms
Dimensions (W×D×H)	296×143×451 mm (11-5/8″)×(5-5/8″)×(17-23/32″)
Weight	3.3 kg (7 lb. 5 oz.) each

POWER CONSUMPTION	65W
POWER SUPPLY	AC 110V, 120V, 220V, 240V, 50/60 Hz

DIMENSIONS (W×D×H)

Center Unit	570mm×387mm×176mm (22-7/16″)×(15-1/14″)×(6-15/6″)

WEIGHT

Center Unit	9.85 kg (21 lb. 12 oz.)

* Specifications are subject to change without notice for further improvement.

National Panasonic

DISASSEMBLY INSTRUCTIONS—1

■ To Remove Record Player

1. Remove two (2) turntable transit screws Nos. ㉑ ~ ㉒, as shown in Fig. 10.
2. Remove turntable.
3. Remove a player board mounting screw No. ⑳, as shown in Fig. 10.
4. Lift player from the back slightly and slide it toward rear of cabinet.
5. Unplug two (2) connectors from chassis. When unplugging connector A, remove it by bending the connector B's holder with your finger in the direction of arrow ❶, as shown in Fig. 1.
6. To reassemble, reverse above procedure.

■ To Replace Components

1. Remove record player.
2. Remove cassette lid by sliding while holding the rear side in the direction of arrow, as shown in Fig. 2.
3. Remove two (2) cassette panel mounting screws Nos. ❶ ~ ❷, as shown in Fig. 10.
4. Remove nine (9) bottom board mounting screws Nos. ❺ ~ ⓭, as shown in Figs. 4 and 10.
5. Unsolder faulty components and replace it with new one.

* Most components can be replaced in this manner. However, when it becomes necessary for you to remove the chassis, observe the following instructions:

6. Remove six knobs on the front panel.
7. Remove two (2) cabinet mounting screws (rear) Nos. ❸ ~ ❹, as shown in Fig. 10 and three (3) cabinet mounting screws A, B and C, as shown in Fig. 4.
8. Secure two (2) push buttons with cellophane tape or equivalent, as shown in Fig. 5. The push buttons should be in "OFF" (out) position.
9. Lift chabinet slightly back and slide it toward front.
10. To reassemble, reverse above procedure.

CAUTION

■ To Reassemble Cabinet;

- * **Incline about 20 degrees. Fit seven cassette buttons and two MIC jacks to their respective holes on the front panel, and push cabinet in the direction of arrow, as shown in Fig. 5.**
- * **Make sure cabinet does not touch the pinch roller, eject lever and two heads on the tape deck.**

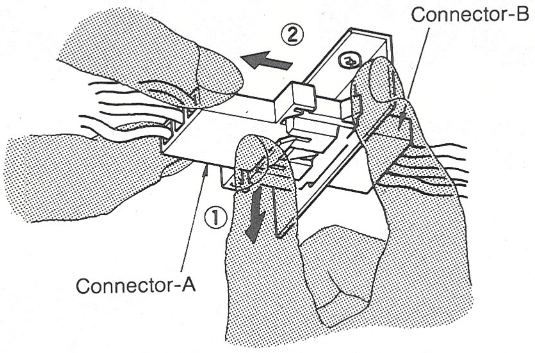

Connector-B
②
①
Connector-A

FIG. 1

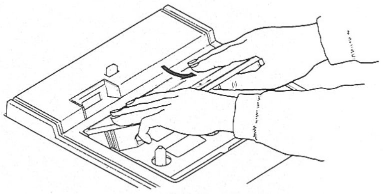


FIG. 2

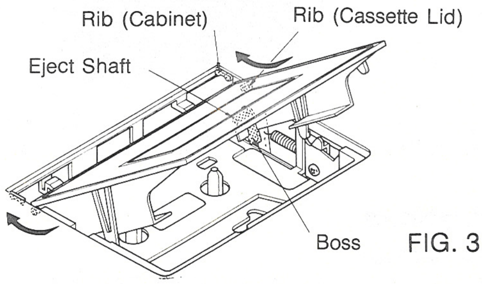

Rib (Cabinet)
Rib (Cassette Lid)
Eject Shaft
Boss

FIG. 3

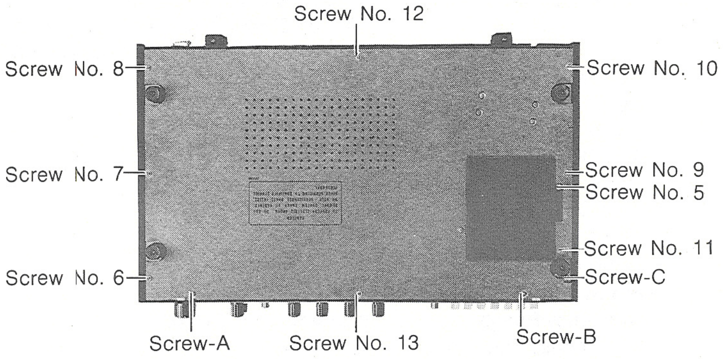

Screw No. 12
Screw No. 8
Screw No. 10
Screw No. 7
Screw No. 9
Screw No. 5
Screw No. 11
Screw No. 6
Screw-C
Screw-A
Screw No. 13
Screw-B

FIG. 4

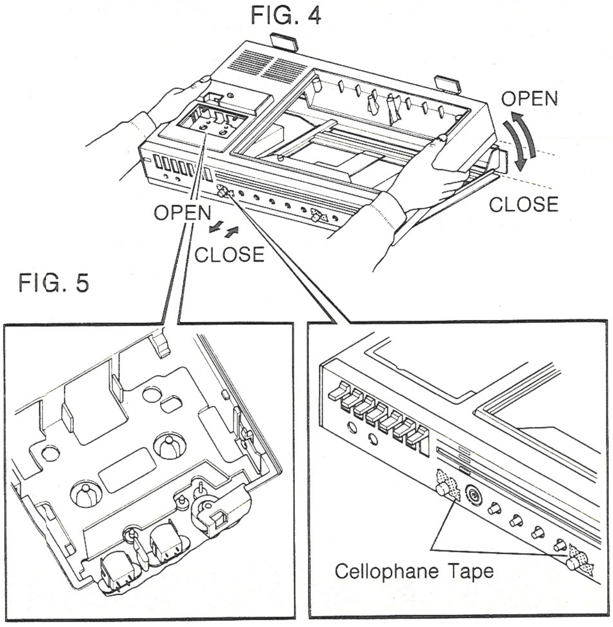

OPEN
CLOSE
OPEN
CLOSE
Cellophane Tape

FIG. 5

DISASSEMBLY INSTRUCTIONS—2

- **To Reassemble Cassette Lid;**
  - * **Set boss of cassette lid just in front of eject shaft. Incline cassette lid about 45 degrees and it making sure its rib will be underneath the rib on the cassette cabinet and push it toward the rear side, as shown in Fig. 3.**

- **To Remove Cassette Deck**
  1. Refer to above instruction 1 to 4.
  2. Remove five (5) cassette deck mounting screws Nos. ⑭ ~ ⑱, as shown in Fig. 10.
  3. To remove cassette circuit board, unplug two connectors (3P and 5P) and remove two (2) screws from bottom side.
  4. To reassemble, reverse above procedure.

- **To Replace Cartridge (Refer to Fig. 6)**
  1. To remove cartridge, push it in direction of arrow A, as shown in Fig. 6.
  2. To install cartridge, push it in the direction of arrow B, as shown in Fig. 6.
  3. Disconnect four (4) connectors from cartridge terminals gently.
  4. Fit the new one. (When installing wires, make sure they are fitted correctly on their proper positions onto connectors.
  5. The cartridge should be perpendicular with the head shell (pickup) and it should be installed straight upward, observing that its edge is in line with the head shell.

- **To Replace Stylus (Refer to Fig. 7)**
  1. Lift pickup arm to a position that will make the stylus accessible.
  2. Gently pull out worn stylus and replace new stylus into correct position.

- **To Replace Capstan**
  - * When replacing capstan, carefully set its edge to the idler wheel basing on two positions, as shown in Fig. 8.

- **Free-Stop Mechanism of Duct Cover**

This models equipped with free-stop mechanism of dust cover. Dust cover can be stopped to be kept open in the free-stop angle range from about 20° to 45°, as shown in Fig. 9. The mechanism has been thoroughly adjusted in best condition at the factory, and under normal used should not be required additional adjustment. However, after prolonged use or after hinge(s) replacement, it may be necessary to adjust hinges.

- **How to Adjust Hinges**
  1. When the screw is turned clockwise (direction A), opening or closing the dust cover become hard.
  2. When the screw is turned counterclockwise (direction B), opening or closing the dust cover become soft.

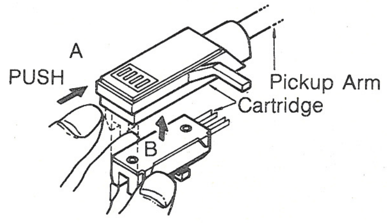

A
PUSH
B
Pickup Arm
Cartridge

FIG. 6

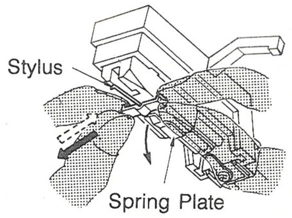

Stylus
Spring Plate

FIG. 7

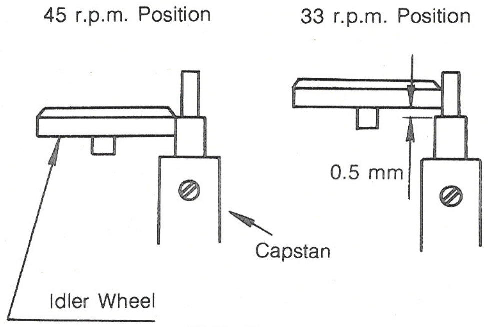

45 r.p.m. Position
33 r.p.m. Position
0.5 mm
Capstan
Idler Wheel

FIG. 8

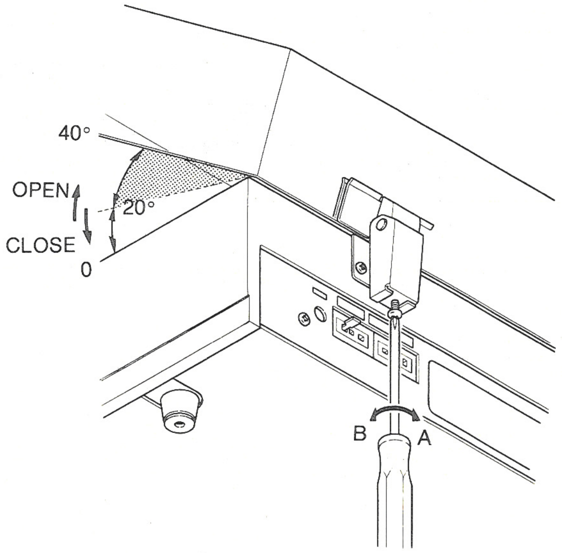

40°
OPEN
20°
CLOSE
0
B
A

FIG. 9

LOCATION OF PARTS

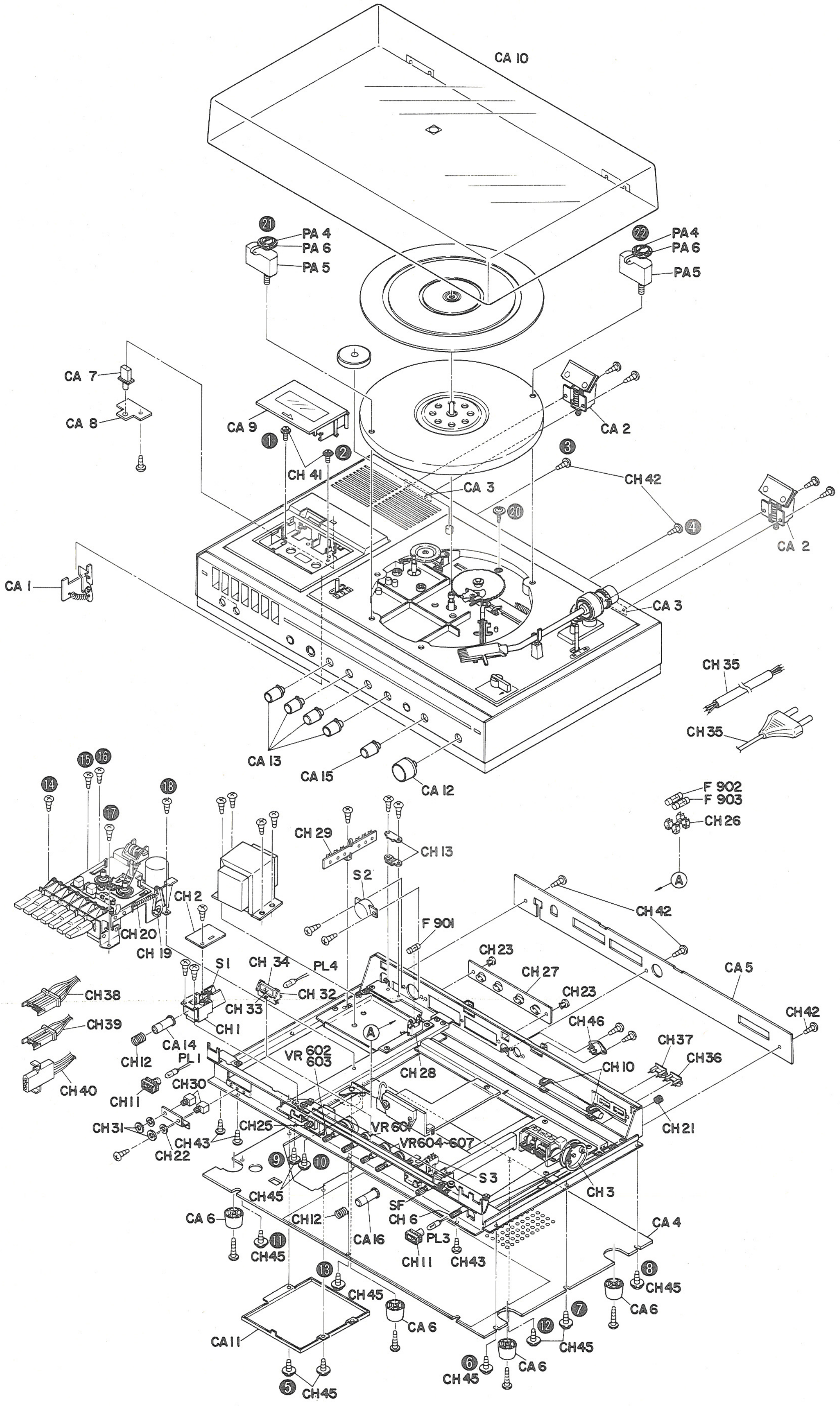
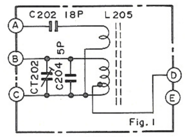

CA 10
㉑
PA 4
PA 6
PA 5
㉒
PA4
PA6
PA5
CA 7
CA 8
CA 9
①
②
CH 41
CA 2
③
CH42
CA 3
⑳
④
CA 2
CA 1
CA 3
CH 35
CH35
CA 13
CA 15
CA 12
⑭
⑮⑯
⑰
⑱
CH 29
CH 13
F 902
F 903
CH26
Ⓐ
S2
F 901
CH 42
CH 2
CH 20
CH 19
S I
CH 34
PL4
CH 32
CH 33
CH I
CH38
CH39
CH40
CA 14
PL I
CH12
CH30
CHI I
CH31
CH43
CH22
CH25
VR 602
603
Ⓐ
CH28
VR601
VR604-607
CH23
CH 27
CH23
CH46
CH10
CH37
CH36
CH21
CA5
CH42
⑨
⑩
CH45
CA 6
⑪
CH45
CH12
CA16
SF
CH 6
PL3
CH I I
CH43
S3
CH3
CA 4
⑧
CH45
CA6
⑬
CH45
CA6
CA I I
⑦
⑫
CH45
⑥
CH 45
CA 6
⑤
CH45

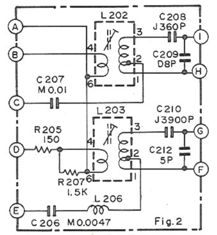
FIG. 10

SCHEMATIC DIAGRAM OF MODEL SG-1060L



C202 18P
L205
CT202
C204 5P
A
B
C
D
Fig. 1

For SW



L202
C208 J360P
C209 D8P
C207 M0.01
L203
C210 J3900P
R205 150
C212 5P
R207 1.5K
L206
C206 M0.0047
A
B
C
D
E
F
G
H
Fig.2

For SW

NOTES

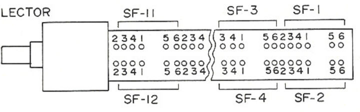
1) S1 :POWER SWITCH in "OFF" Position
S2 :POWER VOLTAGE SELECTOR SWITCH in "240V" Position.
(P. Common 1. 110V 2. 120V 3. 220V 4. 240V)
S3-1~S3-2 :EXT TAPE SOURCE SELECTOR SWITCH in "SOURCE" Position.
S4-1~S4-2 :SPEAKER ON-OFF SWITCH in "OFF" Position
S5 :TAPE SECTION MUTING SWITCH in "ON" Position
S6 :TAPE MOTOR SWITCH in "OFF" Position
S7 :PHONO MOTOR SWITCH in "OFF" Position
SF-1~12 :FUNCTION SELECTOR SWITCH in "FM" Position
(1. Common 2. TAPE 3. PHONO 4. FM 5. MW 6. LW(SW)
ST-1~9 :REC PLAY SELECTOR SWITCH in "PLAY" Position

2) Letters (M. K. J. P. Z) indicate tolerance of capacitors as follows.
M=±20% K= 10% J= 5% $P=^{+100\%}_{-\ 0\%}$ $Z=^{+80\%}_{-20\%}$

3) DC voltages are to be measured with DC VTVM under no signal Condition in FM Position.

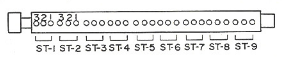
4) DC voltages of cassette part are to be measured with DC VTVM in "REC" and "PLAY" position.

FUNCTION SELECTOR



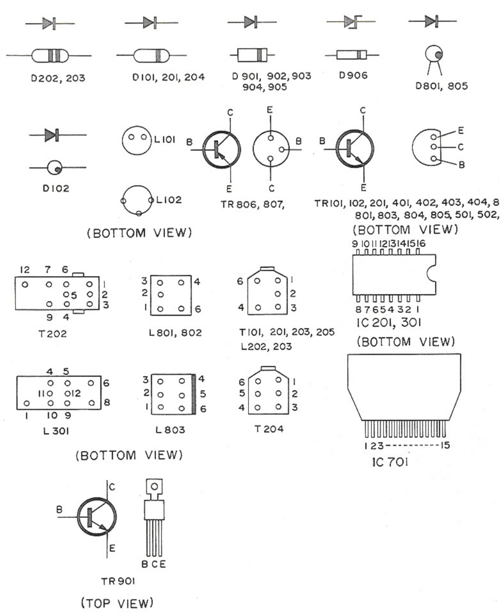
SF-11
SF-3
SF-1
2341 56234 341 562341 56
SF-12
SF-4
SF-2

REC PLAY SELECTOR

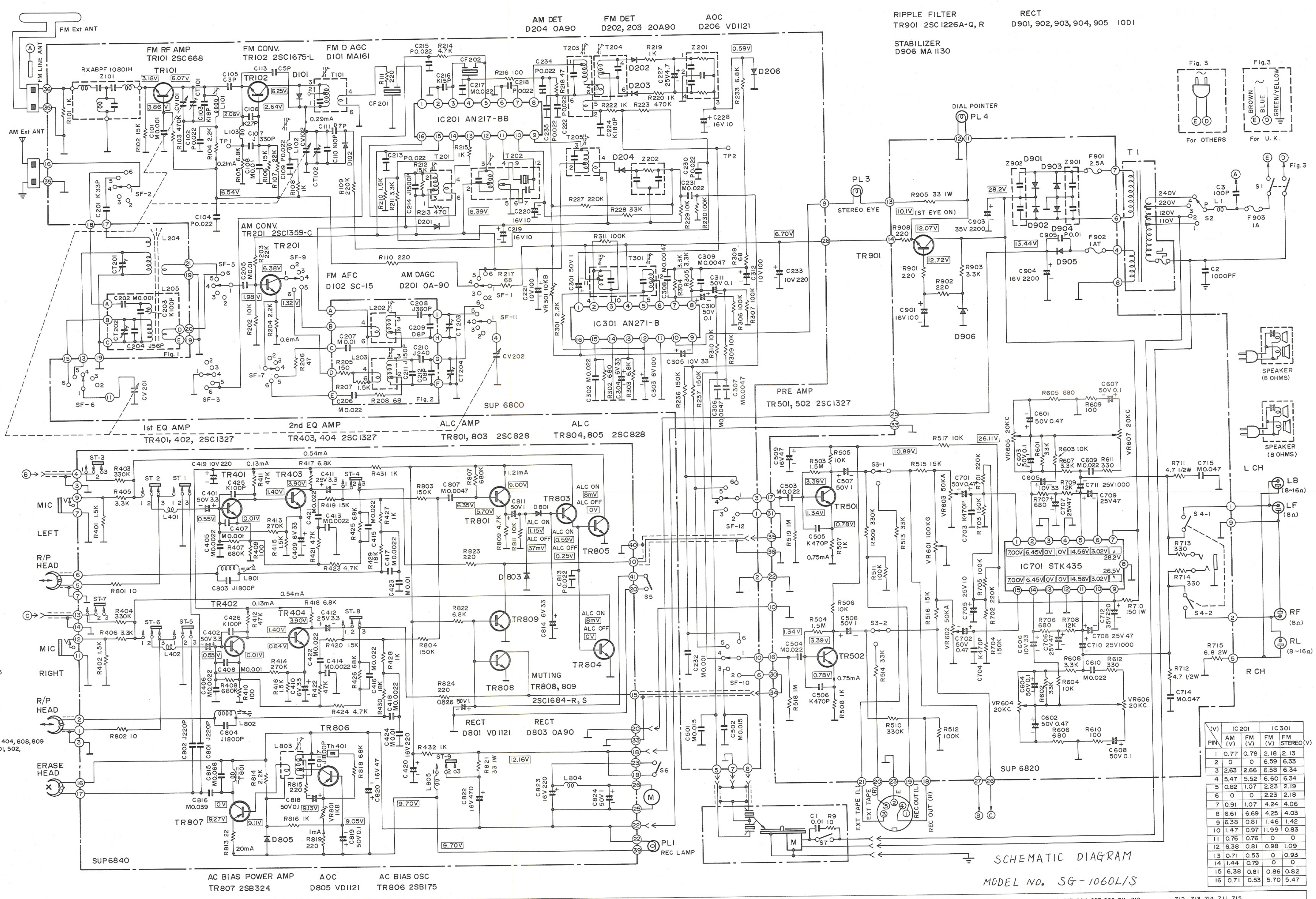


321 321
ST-1 ST-2 ST-3 ST-4 ST-5 ST-6 ST-7 ST-8 ST-9

(BOTTOM VIEW)



D202, 203
D101, 201, 204
D901, 902, 903 904, 905
D906
D801, 805
L101
D102
L102
(BOTTOM VIEW)
TR806, 807,
TR101, 102, 201, 401, 402, 403, 404, 808, 809 801, 803, 804, 805, 501, 502
(BOTTOM VIEW)
B
C
E
T202
L801, 802
T101, 201, 203, 205 L202, 203
IC201, 301
(BOTTOM VIEW)
L301
L803
T204
IC701
(BOTTOM VIEW)
TR901
(TOP VIEW)



FM Ext ANT
FM LINE ANT
AM Ext ANT
FM RF AMP TR101 2SC668
FM CONV. TR102 2SC1675-L
FM D AGC D101 MA161
AM DET D204 OA90
FM DET D202, 203 20A90
AOC D206 VD1121
IC201 AN217-BB
AM CONV. TR201 2SC1359-C
FM AFC D102 SC-15
AM DAGC D201 OA-90
IC301 AN271-B
SUP 6800
RIPPLE FILTER TR901 2SC1226A-Q, R
STABILIZER D906 MA 1130
RECT D901, 902, 903, 904, 905 10D1
DIAL POINTER PL4
PL3 STEREO EYE
TR901
T1
240V 220V 120V 110V
S1 S2 F903 1A
F901 2.5A
F902 1AT
Fig. 3
For OTHERS
For U.K.
BROWN BLUE GREEN/YELLOW
SPEAKER (8 OHMS)
1st EQ AMP TR401, 402, 2SC1327
2nd EQ AMP TR403, 404 2SC1327
ALC AMP TR801, 803 2SC828
ALC TR804, 805 2SC828
PRE AMP TR501, 502 2SC1327
IC701 STK435
MIC LEFT
R/P HEAD
MIC RIGHT
R/P HEAD
ERASE HEAD
MUTING TR808, 809 2SC1684-R, S
RECT D801 VD1121
RECT D803 OA90
TR806
TR807
SUP6840
SUP 6820
PL1 REC LAMP
EXT TAPE (L)
EXT TAPE (R)
REC OUT (L)
REC OUT (R)
L CH
R CH
LB (8~16Ω)
LF (8Ω)
RF (8Ω)
RL (8~16Ω)
AC BIAS POWER AMP TR807 2SB324
AOC D805 VD1121
AC BIAS OSC TR806 2SB175

(V) PIN	IC201 AM (V)	IC201 FM (V)	IC301 FM (V)	IC301 FM STEREO (V)
1	0.77	0.78	2.18	2.13
2	0	0	6.59	6.33
3	2.63	2.66	6.58	6.34
4	5.47	5.52	6.60	6.34
5	0.82	1.07	2.23	2.19
6	0	0	2.23	2.18
7	0.91	1.07	4.24	4.06
8	6.61	6.69	4.25	4.03
9	6.38	0.81	1.46	1.42
10	1.47	0.97	11.99	0.83
11	0.76	0.76	0	0
12	6.38	0.81	0.98	1.09
13	0.71	0.53	0	0.93
14	1.44	0.79	0	0
15	6.38	0.81	0.86	0.82
16	0.71	0.53	5.70	5.47

SCHEMATIC DIAGRAM

MODEL NO. SG-1060L/S

R	101 401, 402, 403, 404, 102, 103 104, 408, 105, 202, 106, 107, 206, 108, 417, 418, 205, 109, 207, 208, 111, 110, 432, 212, 213, 214, 215 217, 216 301, 218 227, 222, 228, 223, 219, 220, 236, 229, 230, 306, 307, 308, 233 518, 519, 503, 504, 505, 506, 509, 510, 511, 513, 515, 512, 516, 517 701, 702 601, 602, 603, 604, 607, 609, 611, 710 712, 713, 714, 711, 715 801, 802, 405, 406 407, 409, 410, 203, 411, 204, 414, 416, 421, 419, 420, 425, 427, 428, 210, 211 807 809, 811 302, 311, 303 304, 305, 237 310, 309 507, 508 514 901, 902 903 703, 704 706, 707, 605, 606, 608, 610, 612 813, 814, 412, 413, 415, 422, 423; 424, 426, 429, 430, 431, 803, 804, 824, 822, 823, 821 9 908, 905 705 708, 709 816, 815, 819, 818
C	201, 202, 204, 203, 101, 102, 103, 104, 105, 106, 107, 108, 113, 109, 421, 422, 110, 111, 206, 207, 213, 214, 208, 209, 212, 216, 217, 219, 218, 220, 221, 234, 222, 301, 224, 304, 303, 227, 230, 228, 233, 1 901 701, 703, 705, 601, 602. 605 609, 610, 607. 608, 714, 715, 2, 3. 401, 402, 407, 408, 205 409, 410, 411, 412 415, 416, 417, 418, 420, 211, 210, 215 811 235, 814, 813, 302 308, 232, 231, 306, 307 503, 504, 505, 506, 507, 508 702, 704, 903 603, 604, 606 708, 709, 712 816, 405, 406, 419, 425, 426, 817, 818, 413, 414, 819, 820, 423, 424 826, 807, 822 823 824 305 309, 310, 311, 312 509 706, 707, 710, 711 802, 801, 803, 804, 815 501 502 904, 905
L	204, 205, 401, 402, 101, 801, 802, 103, 803, 102 202, 203, 805 804 1
T	801 101 201 202 203, 204, 205, 301 1
S	SF-6, ST-3, ST-7, SF-2, ST-2, ST-6, ST-1, ST-5, SF-3, SF-5, SF-7, SF-9, ST-4, ST-8 ST-9 SF-1, SF-11 S5, S6 SF-10, SF-12 S7 S3-1, S3-2 S4-1, S4-2, S2, S1

* This diagram might be modified without notice for further development of technology.

WIRING DIAGRAM OF MODEL SG-1060L

TR101

C	6.07V
B	3.86V
E	3.18V
Ic	0.21mA

TR102

C	6.25V
B	2.64V
E	2.06V
Ic	0.29mA

TR201

C	6.38V
B	1.98V
E	1.32V
Ic	0.6mA

TR401,402

C	1.4V
B	0.55V
E	0.01V
ic	0.13mA

TR403, 404

C	3.9V
B	1.4V
E	0.84V
Ic	0.54mA

TR801

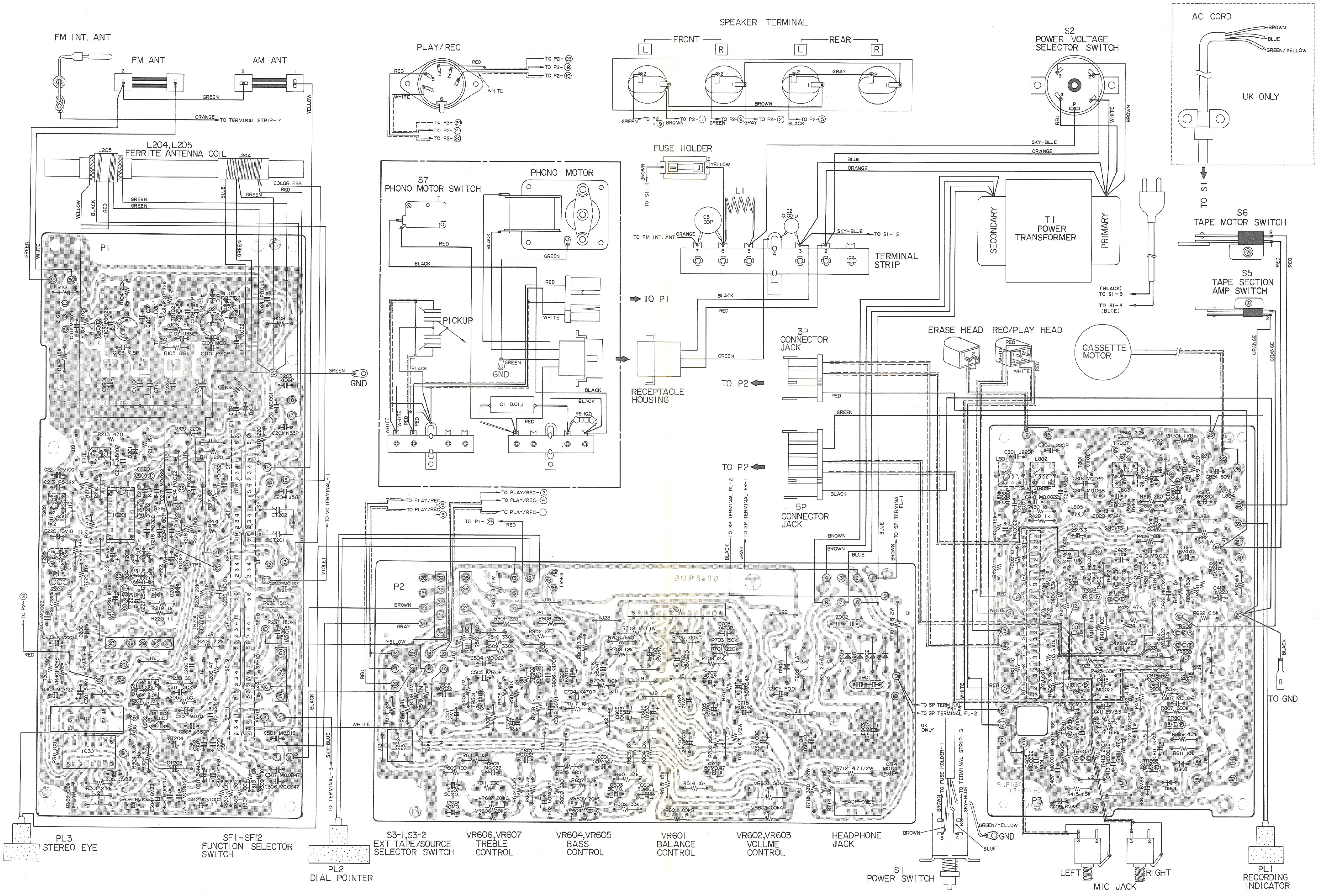
C	9.0V
B	6.35V
E	5.7V
Ic	1.21mA

IC201

PIN NO.	AM (V)	FM (V)
1	0.77	0.78
2	0	0
3	2.63	2.66
4	5.47	5.52
5	0.82	1.07
6	0	0
7	0.91	1.07
8	6.61	6.69
9	6.38	0.81
10	1.47	0.97
11	0.76	0.76
12	6.38	0.81
13	0.71	0.53
14	1.44	0.79
15	6.38	0.81
16	0.71	0.53

IC301

PIN NO.	FM (V)	FM STEREO (V)
1	2.18	2.13
2	6.59	6.33
3	6.58	6.34
4	6.60	6.34
5	2.23	2.19
6	2.23	2.18
7	4.24	4.06
8	4.25	4.03
9	1.46	1.42
10	11.99	0.83
11	0	0
12	0.98	1.09
13	0	0.93
14	0	0
15	0.86	0.82
16	5.70	5.47


FM INT. ANT
FM ANT
AM ANT
GREEN
ORANGE
TO TERMINAL STRIP-7
YELLOW
L204,L205
FERRITE ANTENNA COIL
L205
L204
COLORLESS
RED
PI
GND
PLAY/REC
TO P2-㉓
TO P2-⑱
TO P2-⑲
TO P2-㉔
TO P2-㉑
TO P2-㉒
S7
PHONO MOTOR SWITCH
PHONO MOTOR
PICKUP
C1 0.01μ
R9 10Ω
TO PI
RECEPTACLE HOUSING
SPEAKER TERMINAL
FRONT
REAR
L
R
FUSE HOLDER
TO SI-1
L1
C3 100P
C2 0.001μ
TO FM INT. ANT
TO SI-2
TERMINAL STRIP
3P CONNECTOR JACK
TO P2
5P CONNECTOR JACK
S2
POWER VOLTAGE SELECTOR SWITCH
SKY-BLUE
T1
POWER TRANSFORMER
SECONDARY
PRIMARY
TO SI-3
TO SI-4
AC CORD
BROWN
BLUE
GREEN/YELLOW
UK ONLY
TO SI
S6
TAPE MOTOR SWITCH
S5
TAPE SECTION AMP SWITCH
ERASE HEAD
REC/PLAY HEAD
CASSETTE MOTOR
P2
SUP6820
P3
TO PLAY/REC-⑤
TO PLAY/REC-③
TO PLAY/REC-②
TO PLAY/REC-④
TO PLAY/REC-①
TO PI-㉘
TO VC TERMINAL-1
TO P2-⑭
TO TERMINAL-3
TO SP TERMINAL RL-2
TO SP TERMINAL FR-1
TO SP TERMINAL FL-1
TO SP TERMINAL FL-2
TO FUSE HOLDER-1
TO TERMINAL STRIP-3
UK ONLY
TO GND
HEADPHONES
PL3
STEREO EYE
SFI~SFI2
FUNCTION SELECTOR SWITCH
PL2
DIAL POINTER
S3-1,S3-2
EXT TAPE/SOURCE SELECTOR SWITCH
VR606,VR607
TREBLE CONTROL
VR604,VR605
BASS CONTROL
VR601
BALANCE CONTROL
VR602,VR603
VOLUME CONTROL
HEADPHONE JACK
SI
POWER SWITCH
LEFT
RIGHT
MIC JACK
PL1
RECORDING INDICATOR

TR803

C	9.0V
B	1.15V (ALC ON)
E	0.59V (ALC ON)
Ic	–

TR805

C	0V (ALC OFF)
B	0.59V
E	0
Ic	–

TR804

C	0V (ALC OFF)
B	0.59V (ALC ON)
E	0V
Ic	–

TR808, 809

C	0V
B	0.7V (ON)
E	–
Ic	–

TR807

C	0V
B	9.27V
E	9.11V
Ic	20mA

TR806

C	0V
B	9.05V
E	9.13V
Ic	1mA

TR501, 502

C	3.39V
B	1.34V
E	0.78V
Ic	0.75mA

* This diagram might be modified without notice for further development of technology.

ALIGNMENT INSTRUCTIONS (RADIO)—1

AM IFT	
T201 (AM 1st IFT)	455 kHz (UK: 470 kHz)
T205 (AM 3rd IFT)............	455 kHz (UK: 470 kHz)
LW	
L203 (OSC Coil)...............	145 kHz
L205 (ANT Coil)................	145 kHz
CT204 (OSC Trimmer)	285 kHz
CT202 (ANT Trimmer)......	285 kHz
MW	
L202 (OSC Coil)...............	550 kHz (UK: 570 kHz)
L204 (ANT Coil)	550 kHz (UK: 570 kHz)
CT203 (OSC Trimmer)	1500 kHz
CT201 (ANT Trimmer)......	1500 kHz
FM IFT	
T101 (FM 1st IFT)..........	10.7 MHz
T203,T204 (FM Disc.IFT)..	10.7 MHz
FM-RF	
L102 (OSC Coil)...............	90 MHz
L101 (DET Coil)	90 MHz
CT102 (OSC Trimmer)	106 MHz
CT101 (DET Trimmer)......	106 MHz
FM STEREO	
VR301 (Separation Control)	

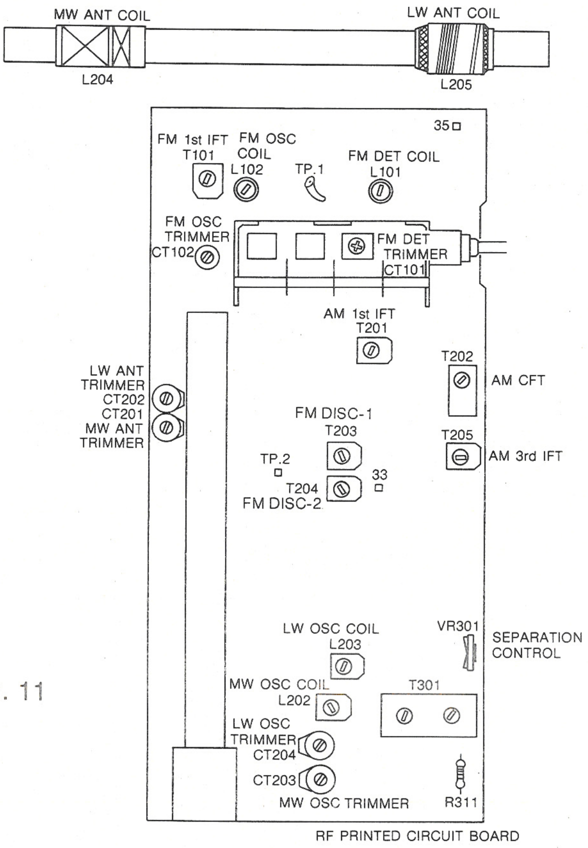
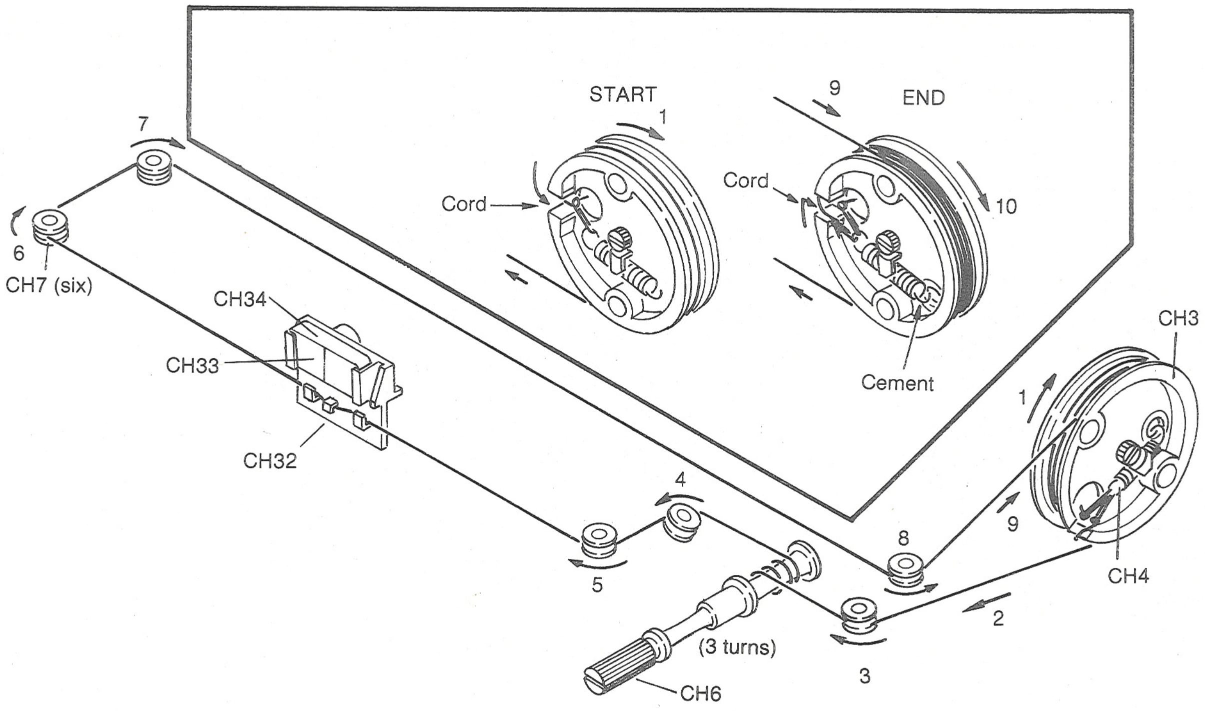

MW ANT COIL
L204
LW ANT COIL
L205
35
FM 1st IFT
T101
FM OSC
COIL
L102
TP.1
FM DET COIL
L101
FM OSC
TRIMMER
CT102
FM DET
TRIMMER
CT101
AM 1st IFT
T201
T202
AM CFT
LW ANT
TRIMMER
CT202
CT201
MW ANT
TRIMMER
FM DISC-1
T203
T205
AM 3rd IFT
TP.2
33
T204
FM DISC-2
LW OSC COIL
L203
VR301
SEPARATION
CONTROL
MW OSC COIL
L202
T301
LW OSC
TRIMMER
CT204
CT203
MW OSC TRIMMER
R311
RF PRINTED CIRCUIT BOARD

FIG. 11

DIAL CORD STRINGING GUIDE


START
1
9
END
Cord
Cord
10
7
6
CH7 (six)
CH34
CH33
CH32
Cement
CH3
1
9
8
4
5
2
3
(3 turns)
CH6
CH4

Tuning Capacitor......... Closed Position (Maximum Capacity)

Dial cord Length.......... 152 cm

FIG. 12

ALIGNMENT INSTRUCTIONS (RADIO)—2

FREQUENCY AND DISTANCE ON DIAL SCALE

To accurately align to the proper frequencies on the dial scale, refer to Table below and mark the edge of the dial scale accordingly, using the "Start Point" mark on the dial scale as a reference point.

Control Setting and Procedure:

1. Volume Control .... Maximum (AM-IF and RF, FM-RF) Minimum (FM-IF)
2. Bass and Treble Control .... Center
3. Balance Control.......................... Center
4. Band Selector .... LW, MW, FM AUTO
5. Power Switch .... ON
6. Tape Monitor.............................. SOURCE
7. Output of signal generator should be no higher than necessary to obtain output reading.
8. Make certain that speaker system is connected to the tuner when aligning.

BAND	FREQUENCY	DISTANCE FROM "START POINT"
LW	145 kHz 285 kHz	13.3 mm 160.5 mm
MW	550 kHz 1500 kHz	18.4 mm 157.5 mm
FM	90 MHz 106 MHz	23.6 mm 147.5 mm

STEP	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
			AM-IF and ALIGNMENT			
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	470 kHz (UK) 455 kHz 30% Mod. with 400 Hz	Point of non-interference. (on/about 600 kHz)	Output meter across speaker jack (L). (Imp. 8 Ω)	T201 (AM 1st IFT) T205 (AM 3rd IFT)	Adjust for maximum output.
2 (LW)	Fashion loop of several turns of wire and radiate signal into loop of receiver.	145 kHz 30% Mod. with 400 Hz	145 kHz (13.3 mm)	Output meter across speaker Jack (L). (Imp. 8 Ω)	L203 (LW OSC Coil) L205 (LW ANT Coil)	Adjust for maximum output by sliding coil L205 along ferrite core.
3 (LW)	Fashion loop of several turns of wire and radiate signal into loop of receiver.	285 kHz 30% Mod. with 400 Hz	285 kHz (160.5 mm)	Output meter across speaker jack (L). (Imp. 8 Ω)	CT204 (LW OSC Trimmer) CT202 (LW ANT Trimmer)	Adjust for maximum output. Repeat Steps (2) and (3).
4 (MW)	Fashion loop of several turns fo wire and radiate signal into loop of receiver.	550 kHz 30% Mod. with 400 Hz	550 kHz (18.4 mm)	Output meter across speaker jack (L). (Imp. 8 Ω)	L202 (MW OSC Coil) L204 (MW ANT Coil)	Adjust for maximum output by sliding coil L204 along ferrite core.
5 (MW)	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1500 kHz 30% Mod. with 400 Hz	1500 kHz (157.5 mm)	Output meter across speaker jack (L). (Imp. 8 Ω)	CT203 (MW OSC Trimmer) CT201 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).
Note: T202 is pre-aligned. Do not touch it.						
			FM-IF and DETECTOR ALIGNMENT			
1	High side through 0.001 mfd to point TP1. Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-interference (on/about 98 MHz)	Connect vert amp. of scope to point TP2. Common to chassis.	T101 (FM 1st IFT) T203 (FM Disc. IFT)	Adjust for maximum amplitude and symmetrical curve (Refer to Fig. 13)
2	High side through 0.001 mfd to point TP1. Common to chassis.	10.7 MHz (400 kHz SWP.)	Point of non-intereference (on/about 98 MHz)	Connect vert. amp. of scope to point TP2. Common to chassis.	T204 (FM Disc. IFT)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to Fig. 14)
Note: Before aligning step 1, turn the core of T204 fully counterclockwise.						

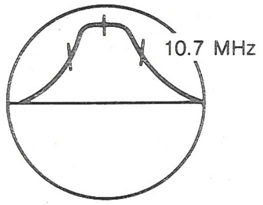


FIG. 13

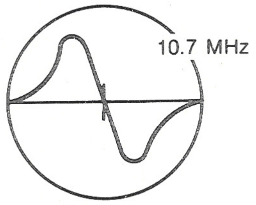


FIG. 14

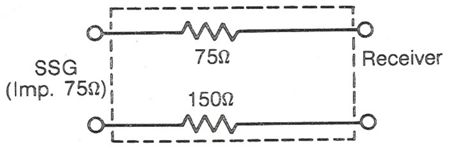

SSG
(Imp. 75Ω)
75Ω
150Ω
Receiver

FIG. 15 DUMMY ANTENNA

ALIGNMENT INSTRUCTIONS (RADIO) – 3

STEP	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
			FM-RF ALIGNMENT			
1	Connect to EXT. FM antenna terminal through Dummy antenna. Common to chassis. (Refer to Fig. 15)	90 MHz 30% Mod. with 400 Hz	90 MHz (23.6 mm)	Output meter across speaker jack (L). (Imp. 8 Ω)	L102 (FM OSC Coil) L101 (FM DET Coil)	Adjust for maximum output.
2	Connect to EXT. FM antenna terminal through Dummy antenna. Common to chassis. (Refer to Fig. 15)	106 MHz 30% Mod. with 400 Hz	106 MHz (147.5 mm)	Output meter across speaker jack (L). (Imp. 8 Ω)	CT102 (FM OSC Trimmer) CT101 (FM DET Trimmer)	Adjust for maximum output. Repeat steps (1) and (2).

Notes: 1. As three output readings will be present, adjustments must be made at center frequency.
2. To correct drift at the FM dial scale (87.5 or 108 MHz), adjust coil L102 and trimmer CT102 with each other.

Control Setting and Procedure:

1. Signal Generator
   - Modulation Rate of 19 kHz Pilot Signal 10%
   - Modulation Rate of right and Left Signal 27%
   - Output Level.. 60 dB
2. Tuner (Balance Control): Adjust balance control Level so that output level from both channels becomes equal.
3. Volume Control .... MIN

SEPARATION ALIGNMENT

EQUIPMENT CONNECTION			ADJUST	REMARKS
SIGNAL GENERATOR	VTVM	OSCILLOSCOPE		
Connect to EXT. FM antenna terminal through dummy antenna. (Refer to Fig. 15)	Connect across speaker jack (left side) (Imp. 8 Ω)	Connect vertical amp. input of scope to terminals of VTVM.	VR301 (Separation Control)	Adjust VR301 for minimum indication on VTVM from the left side output when the right side of stereo modulator is modulated. Adjust VR301 in the same way for the right side. Adjust for best balance between "L to R" and "R to L" separation.

Note: T301 is pre-aligned. Do not touch it.

ALIGNMENT INSTRUCTIONS (TAPE DECK)

Control Setting and Procedure:

1. Function selector......................... TAPE/MIC
2. Balance Control............................ Center
3. Depress push buttons PLAY and REC at the same time. (Be sure to release the record safety lever manually.)
4. Tape Monitor............................... SOURCE

STEP	CIRCUITS	VTVM CONNECTION	VOLUME CONTROL	ADJUSTMENT	REMARKS
1	AC BIAS OSCILLATOR and ERASE	Connect positive side to Pin 17 (+) and negative side to Pin 16 (−). (Refer to Fig. 17)	MIN	VR801 (Voltage Control)	Adjust L803 for maximum output. Adjust VR801 for 8.5±0.2V reading on VTVM-1.
2	AC BIAS OSCILLATOR and ERASE	Connect positive side to Pin 5 and negative side to Pin 3 (Refer to Fig. 17)	MIN	L801 (AC Bias Trap Coil)	Adjust L801 for 3.4±0.2 mV reading on VTVM-1.
3	AC BIAS OSCILLATOR and ERASE	Connect positive side to Pin 1 and negative side to Pin 3 (Refer to Fig. 17)	MIN	L802 (AC Bias Trap Coil)	Adjust L802 for 3.3±0.2 mV reading on VTVM-2. Repeat steps (2) and (3).

Notes: 1. Do not touch R/P Head and Erase Head when adjusting.
2. As two points are obtainable when adjusting the L801 and L802, turn cores down clockwise before making adjustments.

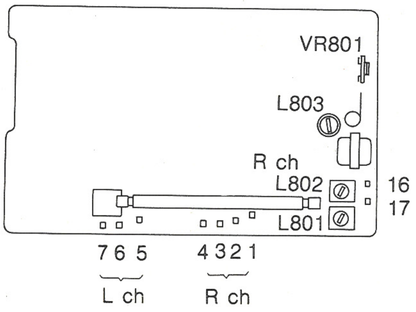


FIG. 16

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

Playback a Standard Alignment Tape and turn Azimuth Adjusting Screw for maximum loudness.

* **Test Tape (6.3 kHz):** VTT-652 or Equivalent

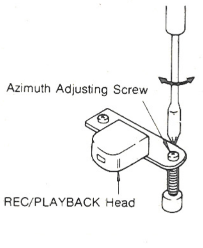


FIG. 17

MECHANICAL ADJUSTMENT OF TAPE DECK

PRESSURE ROLLER ADJUSTMENT

1. Switch set to PLAY. (Do not insert cassette.)
2. Hook spring gauge to arm of pressure rollers, as shown in Fig. 18.
3. Pull pressure roller away from the capstan in the direction of arrow 1 with spring gauge and slowly permit the pressure roller to return toward capstan in the direction of arrow 2.
4. Measure tension at time when pressure roller makes contact with capstan (or when pressure roller starts rotating).
5. The standard tension of pressure roller should be 250 ~ 380 g.
6. If pressure is not within these limits;
   Clean the rubber roller and capstan with a soft cloth moistened with alcohol or replace pressure spring.

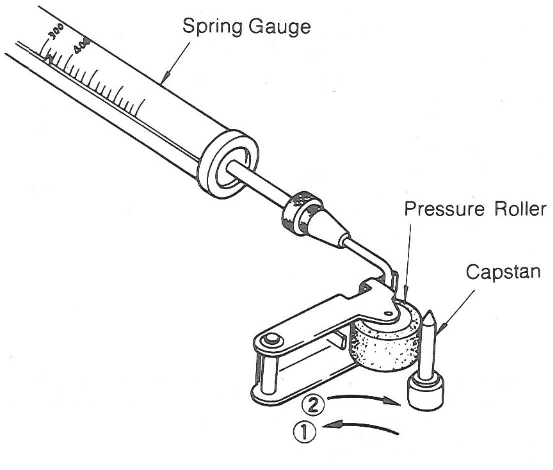


FIG. 18

TAKE-UP TORQUE ADJUSTMENT

- Test Tape: SRK-CT (Take-up Torque Meter)

1. Insert test tape.
2. Rewind the tape to its starting point.
3. Switch set to PLAY.
4. Read "▶" mark of indicator on take-up side, as shown in Fig. 19.
5. Repeat PLAY-STOP several times and read the average tension.
6. The standard take-up tension should be 30 ~ 70 g.cm.
   If take-up tension is not within these limits;
   a) Clean main belt, take-up reel and all parts which contact them with a cotton swab moistened with alcohol, and/or
   b) Switch set to "OFF", remove main belt and make sure that take-up reel and take-up clutch are rotating smoothly.
   c) Change take-up clutch tension by turning the friction spring under reel table, as shown in Fig. 20 and/or
   d) Replace take-up clutch.

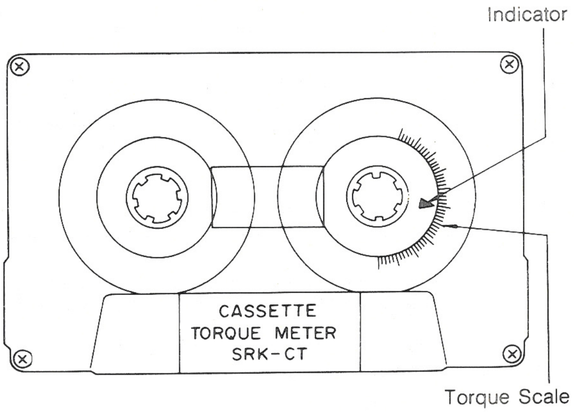


FIG. 19

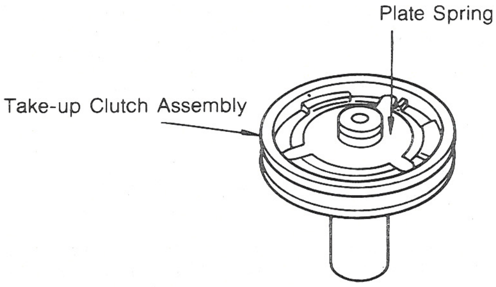
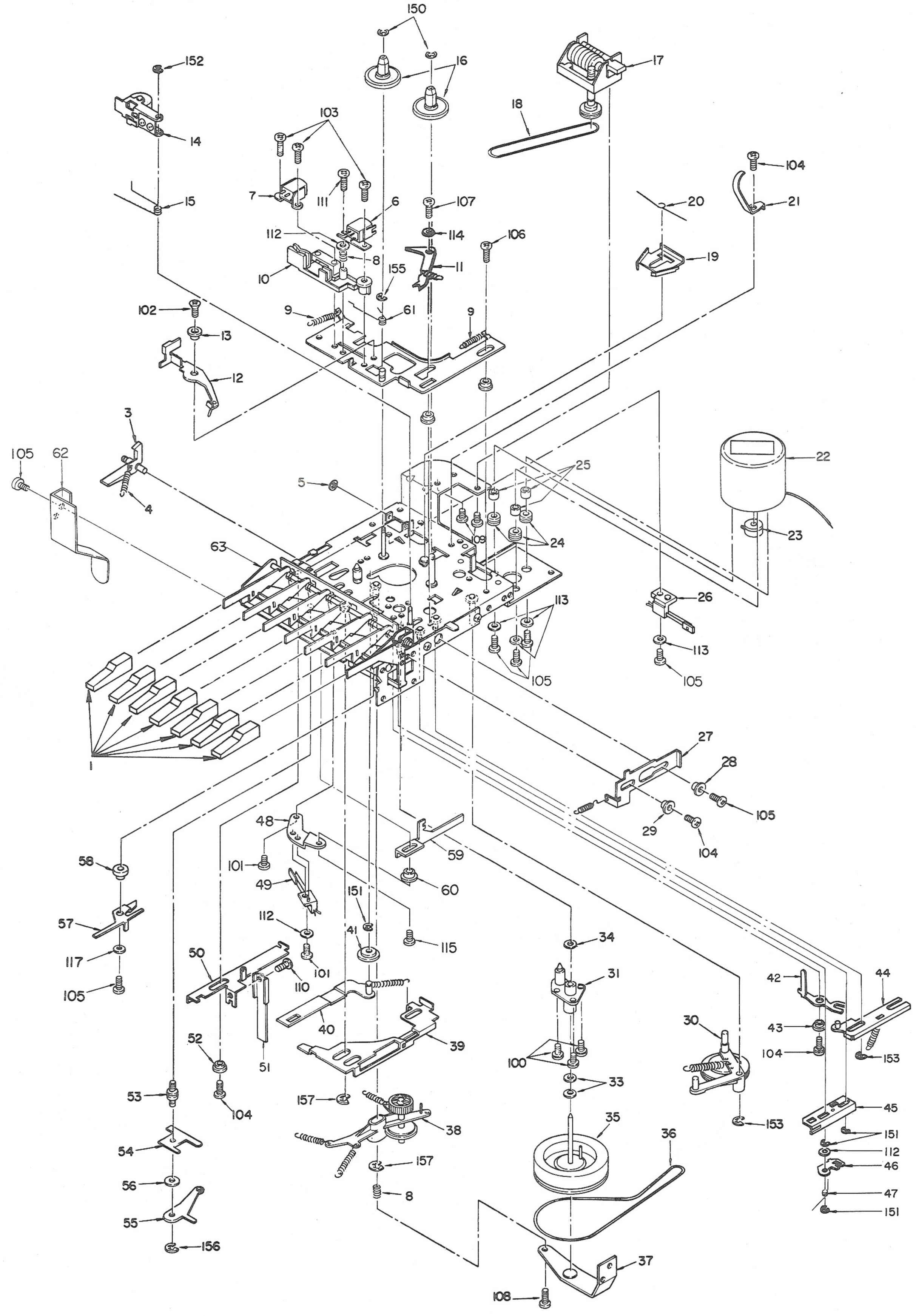


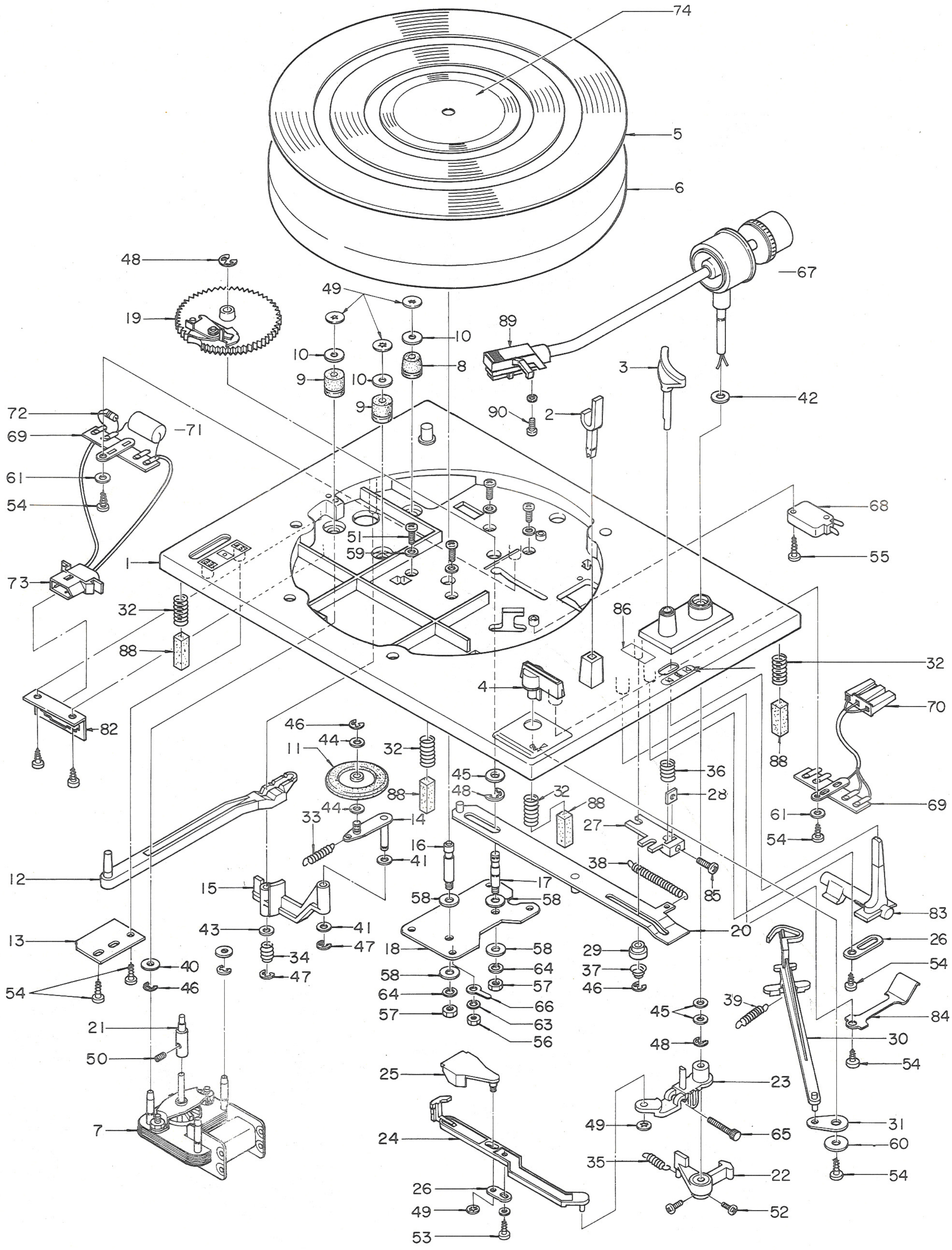
FIG. 20

EXPLODED VIEW OF CASSETTE TAPE DECK



150
152
16
17
18
103
14
104
7
111
6
107
20
21
15
112
114
106
19
8
10
155
11
102
9
61
9
13
12
3
105
62
22
25
5
4
24
109
23
63
113
26
113
105
105
1
27
28
105
48
29
104
58
101
59
60
49
151
112
115
57
41
34
117
101
50
110
31
105
42
44
40
39
30
43
104
153
52
100
33
51
53
157
104
35
45
36
38
153
151
54
112
157
46
56
8
47
55
151
37
156
108

EXPLODED VIEW OF RECORD PLAYER



74
5
6
48
67
49
19
10
89
10
8
3
10
9
42
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90
2
72
69
71
61
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68
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64
57
46
54
46
57
66
63
39
45
84
56
30
21
48
50
54
25
23
7
49
31
65
24
60
35
22
54
26
49
52
53

REPLACEMENT PARTS LIST

NOTES: 1. Part numbers are indicated on most mechanical parts.
2. SAFETY indicates that only parts specified by the manufacturer be used for replacement in critical circuits.
3. A ~ C rank.
A rank parts will cover 80% of repair needs.
A + B rank parts will cover 95% of repair needs.
C rank parts are less necessary.

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
		TRANSISTORS		
TR101	2SC668	Transistor, FM RF Amplifier	1	A
TR102	2SC1675-L	Transistor, FM Converter	1	A
TR201	2SC1359-C	Transistor, AM Converter	1	A
TR401~404	2SC1327	Transistor, 1st and 2nd Equalizer Amplifier	4	A
TR501,502	2SC1327	Transistor, 1st AF Amplifier	2	A
TR801,803 804,805	2SC828 2SC828	Transistor, ALC	4	A
TR806	2SB175	Transistor, Bias Oscillator Amplifier	1	A
TR807	2SB324	Transistor, Bias Oscillator Amplifier	1	A
TR808,809	2SC1684	Transistor, Muting	2	A
TR901	2SC1226A-Q,R	Transistor, Stabilizer	1	A
	SMX56	Spacer, Transistor	1	C
		INTEGRATED CIRCUITS		
IC201	AN217	IC, IF Amplifier	1	A
IC301	AN271	IC, FM MPX Amplifier	1	A
IC701	STK435	IC, Power Amplifier	1	○A
		DIODES		
D101	MA161	Diode, FM D.AGC	1	A
D102	SC-15	Diode, FM AFC	1	A
D202,203	2OA90	Diode, FM Detector	2	A
D204,201,803	OA90	Diode, ALC, AM Det, AM D.AGC	3	A
D206,801,805	VD1121	Diode, Rectifier	3	A
D901~905	10D1	Diode, Rectifier	5	A
D906	MA1130	Diode, Zenner	1	○A

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
		THERMISTOR		
TH401	RRT103	Thermistor, Temperature Compensator	1	B
		LAMPS AND FUSES		
PL1,3,4	XAMR53X300	Pilot Lamp SAFETY	3	A
F901	XBA2C25TRO	Fuse, 250V 2.5AT SAFETY	1	A
F902,903	XBAS2A1004	Fuse, 250V 1AT SAFETY	2	A
		COILS AND TRANSFORMERS		
L101	RLD4N30	Coil, FM Collector	1	A
L102	RLO4N47	Oscillator Coil, FM	1	A
L103	ELQ5A9R	Coil, Trap	1	A
L202	SLO2M2-M	Oscillator Coil, MW	1	A
L203	SLO1M2	Oscillator Coil, LW	1	A
L204,205	SLF6G26-O	Ferrite Antenna Coil, MW and LW	1	A
L401,402	RLQY25S-5	Coil, Trap	2	B
L801,802	RLQC542-T	Coil, Bias Trap	2	A
L803	SLO9Z10-K	Bias Oscillator Coil	1	A
L1	SLQY35S-4X	Coil, Radio Frequency	1	B
L804,805	ELQ250A999	Coil, Radio Frequency	2	B
T101	RLI4M101	IFT, FM 1st	1	A
T201	SLI2M102	IFT, AM 1st	1	A
T202	SLI9W104P-T	CFT, AM UK only (470 kHZ)	1	A
T202	RLI7W105R-T	CFT, AM except UK (455 kHZ)	1	A
T203	RLI4M501-M	IFT, FM Disc.	1	A
T204	RLI4M502-M	IFT, FM Disc.	1	A
T205	RLI2M402	IFT, AM	1	A
T301	RLM1Z3Q-K	MPX Coil, FM	1	A
T801	SLT6E2-D	Transformer, Choke	1	A
T1	SLT5M40-W	Power Transformer SAFETY	1	○A
CF201,202	RVFCF10M12CR	Ceramic Filter	2	B
		COMPONENT COMBINATION		
Z101	RXABPF10801H	Band Pass Filter, FM	1	B
Z201	EXA5DL04C	Component Combination, 330p (three), 4.7k (two)	1	B
Z202	EXAF203Z471	Component Combination, 0.02 (two) 470 ohm	1	B
Z901,902	EXNF2SL04C	Component Combination, 0.01 (two)	1	B

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
		RESISTORS		
R801,802	ERD25TJ100	10 1/4W ±5% Carbon	2	C
R813	ERD25TJ220	22 1/4W ±5% Carbon	1	C
R206,218	ERD25TJ470	47 1/4W ±5% Carbon	2	C
R217,208,308	ERD25TJ680	68 1/4W ±5% Carbon	3	C
R216,409,410,609 610	ERD25TJ101	100 1/4W ±5% Carbon	5	C
R205	ERD25TJ151	150 1/4W ±5% Carbon	1	C
R111,110,815,819, 823,824,901,902, 908	ERD25TJ221	220 1/4W ±5% Carbon	9	C
R611,612	ERD25TJ331	330 1/4W ±5% Carbon	2	C
R213	ERD25TJ471	470 1/4W ±5% Carbon	1	C
R302,605,606,706, 707	ERD25TJ681	680 1/4W ±5% Carbon	5	C
R101,108,215,219 220,222,427,428, 431,432,507,508, 816	ERD25TJ102	1k 1/4W ±5% Carbon	13	C
R207,210,401,402, 415,416	ERD25TJ152	1.5k 1/4W ±5% Carbon	6	C
R204,301,104,814	ERD25TJ222	2.2k 1/4W ±5% Carbon	4	C
R211,304,305,607, 608,405,406,903	ERD25TJ332	3.3k 1/4W ±5% Carbon	8	C
R214,423,424,809	ERD25TJ472	4.7k 1/4W ±5% Carbon	4	C
R105,233,303,417, 418,822	ERD25TJ682	6.8k 1/4W ±5% Carbon	6	C
R202,229,309,310, 505,506,517,603, 604,811	ERD25TJ103	10k 1/4W ±5% Carbon	10	C
R708,709	ERD25TJ123	12k 1/4W ±5% Carbon	2	C
R212,102,106,419, 420,515,516	ERD25TJ153	15k 1/4W ±5% Carbon	7	C
R429,430	ERD25TJ183	18k 1/4W ±5% Carbon	2	C
R107,203	ERD25TJ223	22k 1/4W ±5% Carbon	2	C
R228,513,514,601, 602	ERD25TJ333	33k 1/4W ±5% Carbon	5	C
R411,412,421,422	ERD25TJ473	47k 1/4W ±5% Carbon	4	C
R425,426,818	ERD25TJ683	68k 1/4W ±5% Carbon	3	C
R230,306,307,311, 511,512,705	ERD25TJ104	100k 1/4W ±5% Carbon	7	C
R236,237,703,704, 803,804	ERD25TJ154	150k 1/4W ±5% Carbon	6	C
R109,227,701,702	ERD25TJ224	220k 1/4W ±5% Carbon	4	C
R413,414	ERD25TJ274	270k 1/4W ±5% Carbon	2	C
R403,404,509,510	ERD25TJ334	330k 1/4W ±5% Carbon	4	C
R103,223	ERD25TJ474	470k 1/4W ±5% Carbon	2	C
R407,408,807	ERD25TJ684	680k 1/4W ±5% Carbon	3	C
R518,519	ERD25TJ105	1M 1/4W ±5% Carbon	2	C
R503,504	ERD18TJ155	1.5M 1/8W ±5% Carbon	2	C

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
R713,714	ERD50TJ331	330 1/2W ±5% Carbon	2	C
R711,712	ERD50TJ4R7	4.7 1/2W ±5% Carbon	2	C
R821,905	ERG1ANJ330	33 1W ±5% Metal Film SAFETY	2	C
R710	ERG1ANJ151	150 1W ±5% Metal Film SAFETY	1	C
R821	ERG1ANJ330	33 1W ±5% Metal Film SAFETY	1	C
R715	ERG2ANJ6R8	6.8 2W ±5% Metal Film SAFETY	1	C
		CAPACITORS		
C105	ECCD1H030C	3p 50WV ±0.25p Ceramic	1	C
C113	ECCD1H050C	5p 50WV ±0.25p Ceramic	1	C
C111	ECCD1H070D	7p 50WV ±0.5p Ceramic	1	C
C209,212	ECCD1H080D	8p 50WV ±0.5p Ceramic	2	C
C110	ECCD1H100KV	10p 50WV ±10% Ceramic	1	C
C216	ECCD1H150K	15p 50WV ±10% Ceramic	1	C
C103	ECCD1H180K	18p 50WV ±10% Ceramic	1	C
C106	ECCD1H270K	27p 50WV ±10% Ceramic	1	C
C201	ECCD1H330K	33p 50WV ±10% Ceramic	1	C
C204	ECCD1H560J	56p 50WV ±5% Ceramic	1	C
C203,425,426	ECCD1H101K	100p 50WV ±10% Ceramic	3	C
C224	ECCD1H181K	180p 50WV ±10% Ceramic	1	C
C505,506,703,704	ECCD1H471K	470p 50WV ±10% Ceramic	4	C
C211	ECQS1151JZ	150p 100WV±5% Styrol	1	C
C801,802	ECQS1221JZ	220p 100WV±5% Styrol	2	C
C210	ECQS1241JZ	240p 100WV±5% Styrol	1	C
C107	ECQS1331JZ	330p 100WV±5% Styrol	1	C
C208	ECQS1361JZ	360p 100WV±5% Styrol	1	C
C214	ECQS1152JZ	1500p 100WV±5% Styrol	1	C
C803,804,817	ECQS1182JZ	1800p 100WV±5% Styrol	3	C
C501,502	ECQM05153MZ	0.015 50WV ±20% Polyester	2	C
C302	ECQM05223MZ	0.022 50WV ±20% Polyester	1	C
C816	ECQM05393MZ	0.039 50WV ±20% Polyester	1	C
C714,715	ECQM05473MZ	0.047 50WV ±20% Polyester	2	C
C815	ECQM05683MZ	0.068 50WV ±20% Polyester	1	C
C101,202,232,407, 408	ECKD1H102MD	0.001 50WV ±20% Ceramic	5	C
C413,414,405,406, 417,418	ECKD1H222MD	0.0022 50WV ±20% Ceramic	6	C
C306~309,807	ECKD1H472MD	0.0047 50WV ±20% Ceramic	5	C
C205,207,108,423, 424	ECKD1H103MD	0.01 50WV ±20% Ceramic	5	C
C206,217,231,415, 416,421,422,503, 504,609,610	ECKD1H223MD	0.022 50WV ±20% Ceramic	11	C
C905	ECKD1H103PF	0.01 50WV +100,−0% Ceramic	1	C

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
C102,104,109,213, 215,218,222,230, 234,235,813	ECKD1H223PF	0.022 50WV +100, −0%Ceramic	11	C
C221,312,303	ECEA10V100	100 10WV Electrolytic	3	B
C219,220,228	ECEA16V10	10 16WV Electrolytic	3	B
C304,305,409,410, 605,606,814	ECEA16V33	33 16WV Electrolytic	7	B
C820,509	ECEA16V47	47 16WV Electrolytic	2	B
C901	ECEA16V100	100 16WV Electrolytic	1	B
C420,823,233,419	ECEA16V220	220 16WV Electrolytic	4	B
C822	ECEA16V470	470 16WV Electrolytic	1	B
C904	ECEA16V2200	2200 16WV Electrolytic	1	B
C710,711	ECEA25V1000	1000 25WV Electrolytic	2	B
C227	ECEA35V4R7	4.7 35WV Electrolytic	1	B
C705	ECEA35V10	10 35WV Electrolytic	1	B
C706∼709	ECEA35V47	47 35WV Electrolytic	4	B
C712	ECEA35V220	220 35WV Electrolytic	1	B
C411,412	ECEA50V3R3	3.3 50WV Electrolytic	2	B
C301,507,508,824, 811	ECEA50V1	1 50WV Electrolytic	5	B
C903	ECET35R222SU	2200 35WV Electrolytic	1	○B
C603,604,607,608, 818,819,310,311	ECEA50MR1	0.1 16WV Electrolytic	8	B
C601,602,701,702	ECEA50MR47	0.47 16WV Electrolytic	4	B
C401,402	ECEA50M3R3	3.3 16WV Electrolytic	2	B
C2	ECKDDS102MD	0.001 250WV ±20% Ceramic SAFETY	1	B
C3	ECKDGS101MB3	100p 250WV ±20% Ceramic UK only SAFETY	1	B
	ECKDDS101MB	100p 250WV ±20% Ceramic except UK SAFETY	1	B
C826	ECEB100V1	1 100WV Electrolytic	1	B

VARIABLE RESISTORS

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
VR601	EVH1UA363G15	V. Resistor, Balance Control, 100kG	1	○A
VR602,603	EWFN3AK30A54	V. Resistor, Volume Control, 50kA	1	A
VR604∼607	EWK8EA331C24	V. Resistor, Bass and Treble Control, 20kC	2	○A
VR301	EVLT0AA00B14	Semi-fixed V.R., Separation Control, 10k	1	A
VR801	EVLT0AA00B13	Semi-fixed V.R., Bias Oscillator Adjust, 1k	1	A

VARIABLE CAPACITORS

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
CT101	SCVC146J114K	Tuning Capacitor	1	A
CT102	ECV1ZW10X32	Trimmer Capacitor	1	A
CT201∼204	SCV2T12S	Trimmer capacitor	2	A

SWITCHES

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
S1	ESB7067	Push Switch, Power ON-OFF SAFETY	1	A
S2	ESE3742	Switch, Voltage SAFETY	1	A
S3-1,3-2	SSH52	Push Switch, Tape Monitor	1	A
S5	–	Leaf Switch, Refer to Ref. No. 49 on page 18	1	A
S6	–	Leaf Switch, Refer to Ref. No. 26 on page 18	1	A
S7	–	Micro Switch, Refer to Ref. No. 68 on page 18	1	A
SF1∼12	SSR76K	Rotary Switch, Function	1	A
ST1∼9	SSH36	Slide Switch, R/P	1	A

ACCESSORIES

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
A1	SQX5712	Instruction Book (UK)	1	○C
	SQX5714	Instruction Book (GF)	1	○C
A2	QFT6TCJNAQZ	Demonstration Tape	1	C
A3	SJM112	Microphone	1	C
A4	WN133	Microphone Stand	1	C

PACKING

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
PA1	SPN2476	Carton, Inner	1	○C
PA2	SPN2472	Pad, Front	1	○C
PA2	SPN2474	Pad, Rear	1	○C
PA3	SPN2478	Pad, Upper	1	○C
PA4	SNE212	Screw, Turntable Transit	2	○C
PA5	SJY5020	Spacer, Turntable Transit	2	○C
PA6	SNW601	Washer, Turntable Transit	2	○C

REPLACEMENT PARTS LIST

CHASSIS

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
CH1	SUV108-1	Bracket, Power Switch	1	C
CH2	SMX124	Cover, Power Switch	1	○C
CH3	RDD382YA	Drum, Dial	1	C
CH4	RDS4090A	Spring, Dial	1	C
CH5	RDZ05A	Cord, Dial	152 cm	C
CH6	SDT9302K	Tuning Shaft	1	B
CH7	RDR20	Pulley, Dial	6	C
CH8	RDY36	Shaft, Pulley	6	C
CH9	RNW150-2	Washer, Pulley	6	C
CH10	RHG109	Cushion, F ANT	2	C
CH11	SHG958	Cushion, Lamp	2	C
CH12	SUS184	Spring, Button	2	B
CH13	SHR134	Strain Relief, Power Cord SAFETY	2	○C
CH19	SXE102	Eject Mechanism Assembly	1	B
CH20	SUS180	Spring, Eject Mechanism	1	B
CH21	RHG3-1	Cushion, Antenna Lead	1	C
CH22	SNW612	Spacer, MIC Jack	2	C
CH23	RHR969ZA	Latch	3	C
CH25	SJJ84	Jack, Headphone	1	B
CH26	RJF7A	Holder, Fuse SAFETY	4	B
CH27	SJF9404	Jack Board, Speaker	1	C
CH28	SJF104	Holder, Fuse SAFETY	1	B
CH29	SJR608	Terminal Board SAFETY	1	C
CH30	RJJ78	Jack, MIC	2	B
CH31	SNE420	Nut, MIC Jack	2	C
CH32	SDA32-1	Holder, Dial Pointer	1	C
CH33	SDP580	Dial Pointer	1	C
CH34	SHG950-2	Rubber Cushion, Pointer Lamp	1	C
CH35	SJA88	Power Cord ..... For GF and GF-2 SAFETY	1	B
	SJA110	Power Cord ..... For UK SAFETY	1	B
CH36	SJS9202-1	Terminal, FM ANT, DIN	1	B
CH37	SJS9206-1	Terminal, AM ANT, DIN	1	B
CH38	SWK142	Connector Assembly, Cassette 5P	1	○C
CH39	SWK144	Connector Assembly, Cassette 3P	1	○C
CH40	SWK148	Connector, Phono 3P	1	○C
CH41	XYN26+C8	Screw 2.6 mm, Cassette Lid Mounting	2	C
CH42	XTW3+8FZK	Self Tapping Screw 3mm, Rear Board Mounting	3	C
CH43	XTV3+8B	Tapping Screw, 8mm, Chassis and Cassette Mounting	7	C
CH45	XTW3+12B	Tapping Screw, 12mm, Bottom Board Mounting	9	C
CH46	SJS6502	Socket, 5P DIN	1	C

CABINET

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
	SYK1446	Cabinet Assembly (UK)	1	○A
	SYK1448	Cabinet Assembly	1	○A
CA1	SXE104	Fook Assembly	1	○B
CA2	SBH5506	Hinge	1	○C
CA3	SUW614-1	Bracket, Hinge	2	○C
CA4	SYU288	Bottom Board Assembly	1	○A
CA5	SKU2180	Rear Board Assembly	1	○A
	SKU2181	Rear Board Assembly (SG1060L IT)	1	○A
CA6	SYL6-1	Foot Assembly	4	B
CA7	SBC190	Button, Reset	1	C
CA8	SUW932-1	Bracket, Reset	1	C
CA9	SYE442	Cassette Lid Assembly	1	○A
CA10	SYE438	Dust Cover Assembly	1	○A
CA11	SUV112	Cover, Cassette Circuit Board	1	C
CA12	SBN570K-2*	Knob, Tuning **(SBN698K)**	1	A
CA13	SBN572K-1*	Knob, Volume, Balance, Bass and Treble **(SBN700K)**	4	A
CA14	SBC186	Button, Power ON-OFF	1	B
CA15	SBN660	Knob, Function Selector **(SBN702K)**	1	A
CA16	RBC95ZA	Button Assembly	1	B

NOTE: Marked "*" part numbers of knobs have been altered starting from the 2101 productions.

SPEAKER SYSTEM (SB-107L) (UK)

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
CA20	SKA1184	Speaker Enclosure	2	A
CA21	SYB164	Baffle Board Assembly	2	A
CA22	SKU2120	Rear Board, Speaker System	2	B
CA23	SGN2181	Name Plate, Speaker System	2	B
CA24	RGB159A	Badge, Speaker System	2	C
CA25	SJR202	Terminal Board	2	C
CA26	EAS16PL58S	Speaker, Woofer 16cm 8ohm	2	A
CA27	EAS5PH15SC	Speaker, Tweeter 5cm 8ohm	2	A
CA28	SJP2206	Cord, Speaker	2	B
CA29	ECEA50Y1	Capacitor, 1mfd 50WV Electrolytic	2	B
CA30	SPG1700-2	Carton	1	C
CA31	SPN2278	Pad, Upper and Bottom	2	C
CA32	SPN2280-1	Pad	2	C

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
(SB-107L(P)) (GF-2 and IT-2)				
CA20	SKA1183-1	Speaker Enclosure	2	A
CA21	SYB164	Baffle Board Assembly	2	A
CA22	SKU1681	Rear Board, Speaker System	2	B
CA23	SGN2180	Name Plate, Speaker System (GF only)	2	B
CA24	RGB159A	Badge, Speaker System	2	C
CA25	SJR202	Terminal Board	2	C
CA26	EAS16PL58S	Speaker, Woofer 16cm 8ohm	2	A
CA27	EAS5PH15SC	Speaker, Tweeter 5cm 8ohm	2	A
CA28	SJP2206	Cord, Speaker	2	B
CA29	ECEA50Y1	Capacitor, 1mfd 50WV Electrolytic	2	B
CA30	SPG1700-2	Carton (SPG-1700-1 ... IT-2)	1	C
CA31	SPN2278	Pad, Upper and Bottom	2	C
CA32	SPN2280-1	Pad	2	C
RECORD PLAYER SP-501E				
1	SJY34	Player Board Assembly	1	C
	SJY1002-2	Player Board	1	C
	SGK526	Indicator Plate, Speed Change	1	C
	SJY9030	Indicator Plate, Auto-cut	1	C
	SJY5008	Lift Holder	1	C
	SQX9422	Label, Cueing	1	C
	SUW926-1	Bracket A	2	C
	SUW928-1	Bracket B	1	C
2	SJY5004-1	Pickup Rest	1	C
3	SJY5010	Lifter	1	C
4	SJY5012	Knob	1	C
5	SJY38	Turntable Mat Ass'y	1	○A
6	SJY22	Turntable	1	A
7	2E-10T4PA	Phonomotor	1	A
8	FFGBS010	Rubber Cushion	1	C
9	SHG9068	Rubber Cushion	2	C
10	SNW392	Rubber Washer	3	C
11	FFIPA006	Idler Wheel	1	B
12	SJY12	Selector Lever Assembly	1	C
13	SJY9010	Bracket, Selector Lever	1	C
14	SJY2	Idler Lever	1	C
15	SJY9018	Selector Arm	1	C
16	SJY9004-2	Turntable Shaft	1	C
17	SJY9034-1	Main Gear Shaft	1	C
18	SJY9002	Plate, Turntable Shaft	1	C
19	SJY32	Main Gear Assembly	1	B
20	SJY6	Operating Plate Assembly	1	C
21	FFMCP0905	Capstan for 50Hz	1	B
	FFMCP0906	Capstan for 60Hz	1	B

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
22	SJY9016-1	Switch Lever	1	C
23	SFUM623-4E	Pickup Plate	1	C
24	SJY9042	Actuating Link	1	C
25	SJY9044	Switch Control Plate	1	C
26	SJY9046	Switch Control Bracket, Cueing Bracket	2	C
27	SJY9048	Stopper, Lift	1	C
28	SNE424	Holder, Stopper	1	C
29	SFUM623-2	Collar, Operating Plate	1	C
30	SJY9052	Feed Link	1	C
31	SJY9054	Cut Lever	1	C
32	SJY9028	Spring	4	C
33	SJY9024	Spring, Idler Pulley	1	C
34	SJY9026	Spring, Selector Arm	1	C
35	SJY9056	Spring, Pickup Plate	1	C
36	SJY9058	Spring A, Lift	1	C
37	SJY9060-1	Spring B, Lift	1	C
38	SJY9062	Spring, Operating Plate	1	C
39	SJY9064	Spring, Feed Link	1	C
40	SNW412-1	Washer, Fiber	2	C
41	SNW522	Washer 5ϕ, Nylon	2	C
42	SNW622-1	Washer 6ϕ, Nylon	1	C
43	SNW522-1	Washer 5ϕ, Fiber	1	C
44	SNW412	Washer 4ϕ	2	C
45	SNW622-2	Washer 6ϕ	3	C
45-1	SNW532	Washer 10ϕ	2	C
46	XUC3	Circlip 3ϕ	4	C
47	XUC4	Circlip 4ϕ	2	C
48	XUC5	Circlip 5ϕ	3	C
49	SNE428	Push Nut	8	C
50	XXA26D3	Screw for Capstan	1	C
51	XSN3+12S	Screw 3×12mm	4	C
52	XSN3+4S	Screw 3×5mm	2	C
53	XTV23+6	Screw 2.3×6mm	1	C
54	XTV3+8B	Screw 3×8mm	7	C
55	XTV3+16B	Screw 3×16mm	1	C
56	XNG3S	Nut 3m/m	1	C
57	XNG4S	Nut 4m/m	2	C
58	XWE4F13	Washer	4	C
59	XWE3D8	Washer	4	C
60	XWE3E16	Washer	1	C
61	XWE3E10	Washer	2	C
62	XWE23×6	Washer	1	C
63	XWA3B	Washer	1	C
64	XWA4B	Washer	1	C
65	VF3B20S	Screw, Pickup Plate	1	C
66	SJT202	Lug	1	C
67	EPU612STAD	Pickup	1	A
	EPC05STAD	Cartridge, Ceramic	1	A
	EPS36STSD	Stylus, Diamond	1	A

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
68	AM9688	Micro Switch	1	A
69	SJR402	Terminal Strip, 4P	2	A
70	SWK150	PU Plug Assembly	1	A
71	ECQW8A103M	0.01μF	1	A
72	ERD12TJ100	10Ω	1	A
73	SWK64	Connector	1	A
74	SJY9100	Trim, Turntable Mat	1	A
78	SHG916	Rubber Cushion	3	C
82	SMN786	Bracket, Connector Mounting	1	C
83	SJY36	Cueing Lever Assembly	1	○B
84	SJY9070	Spring Plate, Cueing Lever	1	C
85	XXAR3P6	Screw, Stopper	1	C
86	SQT9022	Label, Stylus	1	C
87	SJY5018	45 RPM Adaptor	1	B
88	SHG9074	Rubber Cushion	4	C
89	SFPAM61201	Head Shell	1	C
90	XTN23+5A	Screw, Head Shell Mounting	1	C
		CASSETTE TAPE DECK (SJD70)		
1	SBC200	Push Button	7	B
3	SMQ1232	Lever, REC Safety	1	C
4	SMQ662	Spring, REC Safety Lever	1	B
5	SNE432	Circlip, REC Safety Lever	1	B
6	SJH30	R/P Head	1	A
7	SJH14	Erase Head	1	A
8	SMQ678	Spring, R/P Head and Flywheel Retainer	2	B
9	SMQ1360	Spring A, Head Panel	2	B
10	SMQ1362	Base Assembly, Head	1	C
11	SMQ1388	Eject Stop Lever w/Spring	1	C
12	SMQ1390	Lever Assembly, Auto-Stop	1	C
13	SMQ1392	Spacer, Auto-Stop Lever	1	C
14	SMQ1364	Pressure Roller Assembly	1	A
15	SMQ1366	Spring, Pressure Roller	1	B
16	SMQ1448	Reel Table	2	B
17	SMQ1544	Tape Counter	1	○B
18	SMQ1588	Belt, Counter	1	A
19	SMQ1354	Brake Arm	1	C
20	SMQ1358	Spring, Brake Arm	1	B
21	SMQ1394	Spring, Tape Holder	1	B
22	MHT5PS	DC Motor	1	A
23	SMQ1384	Motor Pulley w/Screw (XXA2A-3)	1	B
24	SMQ716	Rubber Cushion, Motor	3	C
25	SMQ718	Spacer, Motor	3	C
26	SMQ1378	Leaf Switch, Motor ON-OFF (S6) SAFETY	1	A
27	SMQ1396	Lever, Eject slide, w/Spring	1	C
28	SMQ1374	Spacer A, Eject Slide Lever	1	C
29	SMQ1398	Spacer B, Eject Slide Lever	1	C
30	SMQ1368	Clutch Assembly w/Spring	1	C
31	SMQ1370-1	Bearing, Flywheel	1	C
33	SMQ148	Washer, Oil Thrower	2	C
34	SMQ1402	Nylon Washer	1	C
35	SMQ686	Flywheel	1	B
36	SMQ1372	Belt, main	1	A
37	SMQ1404	Retainer, Flywheel	1	C
38	SMQ1382-1	FF Arm Assembly w/Spring	1	C
39	SMQ1406	Operation Plate, Brake	1	C
40	SMQ1408	Rewind Arm w/Spring	1	C
41	SMQ1386	Rewind Idler	1	C
42	SMQ1410	Pause Lever	1	C
43	SMQ1412	Spacer, Pause Lever	1	C
44	SMQ1414	Pause Slide Lever A w/Spring	1	C
45	SMQ1416	Pause Slide Lever B	1	C
46	SMQ1376	Pause Click Lever	1	C
47	SMQ1418	Spring, Pause Click Lever	1	B
48	SMQ1528	Bracket, Amp. Switch	1	C
49	SMQ1380	Leaf Switch, Tape Amp. ON-OFF (S5)	1	A
50	SMQ1422	Lever, REC Slide	1	C
51	SUS178-1	Spring Plate, REC Switch	1	B
52	SMQ1426	Spacer, REC Slide Lever	1	C
53	SMQ1428	Shaft, FF and Rewind Lever	1	C
54	SMQ1430	Rewind Lever	1	C
55	SMQ1432	FF Lever	1	C
56	SMQ1434	Nylon Washer 6.1ϕ	1	C
57	SMQ1436-1	Lever, Auto-Stop Drive	1	C
58	SMQ1438	Spacer, Auto-Stop Lever	1	C
59	SMQ1530	Play Lever	1	C
60	SMQ1524	Spacer, Play Lever	1	C
61	SMQ1444	Spring B, Head Panel	1	B
62	SUS192	Spring Plate, REC Operation	1	B
63	SMQ1580	Push Button Frame Ass'y	1	C
100	XYN2+C5	Screw 2mm×5	3	C
101	XSN2+5	Screw 2mm×5, Amp Switch	1	C
102	XSS2+5	Screw 2mm×5	1	C
103	XSN2+10	Screw 2mm×10	3	C
104	XYN26+5	Screw 2.6mm×5	5	C
105	XSN26+6	Screw 2.6mm×6	5	C
106	XSB26+4	Screw 2.6mm×4, Head Panel	1	C
107	XSB26+6	Screw 2.6mm×6, Head Panel	1	C
108	XSN26+10	Screw 2.6mm×10	1	C
109	XSS3+5S	Screw 3mm×5, Counter Mounting	2	C
110	XYN3+C6S	Screw 3mm×6, REC Spring	1	C
111	XSN2D6	Screw 2mm×6	1	C
112	XWE2A6	Washer 2ϕ	3	C
113	XWE26D7	Washer 2.6ϕ, 0.5t	4	C
114	XWE26E10	Washer 2.6ϕ	1	C

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Remarks
115	XYN26+C6	Screw 2.6mm × 6, Play Lever	1	C
150	XUC12FT	Circlip 1.2ϕ	2	C
151	XUC15FT	Circlip 1.5ϕ	4	C
152	XUCS19	Circlip 1.9ϕ	1	C
153	XUC2FT	Circlip 2ϕ	2	C
155	XUC25FT	Circlip 2.5ϕ	1	C
156	XUC32FT	Circlip 3.2ϕ	1	C
157	XUC4FT	Circlip 4ϕ	2	C